In the Claims

Please cancel claims 6, 8, 9, 13, 14, 16 and 20-22 without prejudice. The Applicants expressly reserve the right to pursue the subject matter of the canceled claims at a later date in conjunction with the present or one or more related applications.

Please amend the following claims:

1. (Amended) A device for forming fixation masses about a portion of [fixating] a bone comprising

a head portion having an injection site for releasably attaching an injection device to said injection site;

a shaft portion terminating at a tip portion;

a cannula extending along at least a portion of a length of said shaft portion from said injection site on said head portion substantially along a center-line within said shaft portion, said cannula configured to receive a fixation substance; and

at least one slot in said shaft portion in fluid communication with the cannula for delivery of said fixation substance about said device and in proximity to a cortex portion of the bone.

2. (Amended) The device in accordance with claim 1, wherein said at least one slot comprises two slots [, a first of the two slots disposed proximate said head portion and a second of the two slots disposed proximate said tip portion].

4. (Amended) The device in accordance with claim 1, wherein said cannula extends from said injection site on said head portion through said shaft portion and through said tip portion for delivery of said hardening substance to strengthen the fixation about an outer cortex portion of the bone.

5. (Amended) The device in accordance with claim 1, wherein said head portion comprises means for engaging and turning said device for insertion and slot alignment into [a] the bone.

10. (Amended) A bone anchoring device [screw for attaching] comprising:

a head portion at a proximal end of [the screw] said anchoring device, the head portion having an attachment means for attaching an injection device and an engagement means for engaging with a tool for inserting said [screw] anchoring device;

an elongate shaft portion having an external threaded portion and a cannula extending along at least a portion of the shaft portion, [the cannula in fluid communication with the head portion] said cannula suitably configured to internally deliver an anchoring substance;

a tip portion at a distal end of the shaft portion; and

at least one [slot located in said shaft] delivery port extending from said cannula to deliver [an injectable material] said anchoring substance [to] near a bone surface and to form an anchoring mass about said anchoring device and the bone. [from the cannula of the screw.]

11. (Amended) The bone [screw] anchoring ~~device~~ system in accordance with claim 10, wherein said attachment means comprises a recess formed in said head portion, said recess threaded for engagement with an injection device.

12. (Amended) The bone [screw] anchoring ~~device~~ system in accordance with claim 10, further comprising a coupling assembly for attaching a fixation device to said head portion of said [screw] anchoring device.

15. (Amended) The bone [screw] anchoring ~~device~~ system in accordance with claim [13] 10, wherein said tip portion comprises an opening in fluid communication with said cannula to deliver said anchoring substance near the bone surface.

17. (Amended) The bone [screw] anchoring ~~device~~ system in accordance with claim [14] 10 comprising a plurality of delivery ports [wherein said slots] located along said shaft portion and extending from said cannula, for delivery of said anchoring substance to maintain optimum [fixation] anchoring strength of the device[screw].

18. (Amended) The bone [screw] anchoring ~~device~~ system in accordance with claim [14] 10, wherein said head portion further includes an adapter device for forcing [cement] said anchoring substance through said cannula and out of said [slots] port.

19. (Amended) The bone [screw] anchoring ~~device~~ system in accordance with claim [14] 10, where said screw further includes a plug for sealing said cannula after insertion of an injectable material therein.

Please add the following new claims 23 – 47:

23. (New) A method for strengthening fixation of a fixation device to a bone comprising the steps of:

(a) providing a fixation device;

(b) drilling a pilot hole in the bone;

(c) inserting said fixation device into said pilot hole;

(d) injecting a fixation substance into a cannula of said fixation device; and

(e) delivering said fixation substance about the bone through a plurality of slots extending outward from said cannula to form areas of fixation masses near said fixation device and the bone.

24. (New) The method of claim 23 wherein said providing a fixation device step comprises at least one of or a combination thereof a bone screw, a plate, a pin, a wire, a rod or a nail.

25. (New) The method of claim 23 wherein said providing step comprises pretreating said fixation device with a bone-growth agent.

26. (New) The method of claim 23 further comprising the step of positioning said slots near a cortex portion of the bone.

27. (New) The method of claim 26 wherein the step of positioning comprises a first slot positioned near an endosteum of a cortex portion of the bone and a second slot positioned near a periosteum of a cortex portion of the bone

28. (New) The method of claim 23 wherein the step of delivering comprises delivering said fixation substance in proximity to a cortex of the bone.

29. (New) The method of claim 23 further comprising the steps of:

(a) attaching a delivery device comprising said fixation substance to a head of said fixation device prior to said injection step; and

(b) detaching said delivery device from said head of said fixation device after said delivering step.

30. (New) A method of forming an anchor for an internal fixation device in a ~~pedicle bone~~ vertebral body comprising the steps of:

(a) inserting at least one fixation device into the ~~pedicle bone~~ vertebral body, said fixation device having a cannula and at least one slot extending outward from said cannula; and

(b) delivering through said slot an anchoring substance to form a mass about said fixation device and in proximity to an outermost region of a centrum area of the ~~pedicle bone~~ vertebral body.

31. (New) The method of claim 30 further comprising the steps of:

(a) attaching a fixation component to a head of said fixation device; and

(b) aligning said fixation component and said fixation device for optimum support in the ~~pedicle bone~~ vertebral body.

32. (New) The method of claim 21 further comprising the step of injecting said anchoring substance into a cannula of said fixation device.

33. (New) The method of claim 21 further comprising the step of prefilling said fixation device with said anchoring substance prior to said inserting step.

34. (New) The device in accordance with claim 1 comprising two slots, a first slot disposed proximate said head portion for delivery of said fixation substance to strengthen an uppermost inner cortex portion of the bone, and a second slot disposed proximate said tip portion for delivery of said fixation substance to strengthen a lowermost inner cortex portion of the bone, and wherein said cannula extends from said injection site on said head portion through said shaft portion and through said tip portion for delivery of said fixation substance to strengthen an outer cortex portion of the bone.

35. (New) A method for increasing the holding power of a bone fixation device comprising the steps of:

(a) engaging said device within the bone;

(b) disposing a bone cement through a bore in said device and through at least one opening in said device;

(c) disbursing said cement proximate said device and the bone; and

(d) curing said cement to form a cement mass about said device and the bone.

36. (New) The method of claim 35, wherein said engaging step comprises predrilling a pilot hole and inserting said device into said pilot hole.

37. (New) The method of claim 35, wherein said cement is disbursed about a cortex region of the bone.

38. (New) The method of claim 37, wherein said disposing step comprises disposing said cement through at least two openings in said device, and said disbursing step comprises disbursing said cement through a first opening proximate to a head portion of said device near an inner cortex portion of the bone, and disbursing said cement through a second opening proximate to a tip portion of said device near an outer cortex portion of the bone.

39. (New) The method of claim 37, wherein said disposing step comprises disposing said cement through three openings in said device, and said disbursing step comprises disbursing through a first opening proximate to a head portion of said device near an upper inner cortex portion of the bone, and disbursing through a second opening proximate to a tip portion of said

device near a lower inner cortex portion of the bone, and disbursing through a third opening proximate said tip portion near a lower outer cortex portion of the bone.

40. (New) The method of claim 35, wherein said engaging step comprises placing a bone plate atop the bone and inserting at least one bone screw through said bone plate into the bone.

41. (New) The device in accordance with claim 7, wherein said fixation substance forms a fixation mass about a portion of the bone in compliance with an orientation of said slot.

42. (New) The device in accordance with claim 41, wherein said orientation of said slot is optimized to strengthen the fixation of said device about the bone.

43. (New) The device in accordance with claim 2, further comprising a first slot disposed proximate said head portion and a second slot disposed proximate said tip portion.

44. (New) The device in accordance with claim 43, wherein said first slot delivers said fixation substance to form a fixation mass to strengthen the fixation about an inner cortex portion of the bone.

45. (New) The device in accordance with claim 43, wherein said second slot delivers said fixation substance to form a fixation mass to strengthen the fixation about an outer cortex portion of the bone.

46. (New) The device in accordance with claim 1, wherein said fixation substance comprises a hardening substance.

47. (New) The device in accordance with claim 46, wherein said fixation substance comprises bone cement.